

Virginia Board of Nursing Guidance Document # 90-24

TITLE: The Use of Simulation in Nursing Education

Introduction

This document provides information and guidance to schools of nursing (both PN and RN) in Virginia on the use of simulation in lieu of direct client care hours in the fulfillment of the clinical hour requirements for nursing education programs. As of April 2008, all RN nursing education programs approved in Virginia shall provide a minimum of 500 hours of direct client care supervised by qualified faculty, and all PN nursing education programs approved in Virginia shall provide a minimum of 400 hours of direct client care supervised by qualified faculty [18 VAC 90-20-120.E]. This document will outline the essential components and major concepts that are necessary when using simulation in lieu of direct client care.

Background in Simulation

Technological innovations are advancing practice across all domains of education and industry, and the same is true in nursing education. Simulation is gaining popularity as a means to provide innovative learning experiences and foster a richer understanding of didactic content. As nursing programs prepare to integrate simulation into nursing education, the Virginia Board of Nursing has prepared this outline of major concepts that need to be addressed when preparing and integrating simulation into nursing curricula.

Simulated experiences provide the student with the opportunity to be involved in patient care experiences they may otherwise not experience in actual clinical settings (e.g., no laboring patients, no post-partum mothers, no pediatric experiences, no patients with cardiac issues, no patients with complex med-surg issues, no home health patients or mental health patients). These patient situations may be low frequency, high impact events they may otherwise not experience. Simulation offers an avenue to assess clinical judgment and critical thinking without jeopardizing patient safety. A simulated experience allows students to critically analyze their own actions (or failure to act), reflect on their own skill sets and clinical reasoning, and critique the clinical decisions of others (Jefferies 2007). Simulation promotes active learning and participation, to enhance students' critical thinking skills (Billings & Halstead 2005). Educators can apply well-founded simulation approaches not only to help students in clinical rotations to attain educational goals, but also to evaluate teaching methods, as well as to investigate alternatives to the goals and methods themselves (Kyle & Murray 2008). Simulation provides a new avenue for educators and researchers to improve nursing education and practice as well as advance the field of nursing as a whole.

As a teaching methodology, "a clinical simulation experience is an active event in which students are immersed into a realistic clinical environment or situation. During this authentic clinical experience learners are required to integrate and synthesize core concepts and knowledge and apply appropriate interpersonal and psychomotor skills. Students must incorporate critical thinking and decision making skills using a process (e.g., nursing process) involving assessment,

diagnosis, planning, implementation or intervention and evaluation (Virginia State Simulation Alliance, 2008)".

Key Components in Simulation

Integral components of a simulated learning experience include: the educator or preceptor, the student(s), key educational practices, and the simulated environment. The educator guides the student in the learning process. Qualified faculty who have been trained in simulation assume the educator role during the simulated learning experience. The educator role can be played by clinical staff or staff specific to the patient simulation lab. In either case it is important for the educator to have knowledge of the simulation and the material it covers. Students participating in the simulated learning experience must come into the simulated clinical environment prepared for the simulation with a basic knowledge of the material and dressed appropriately for the clinical experience. The learning environment provides the foundation for effective simulated patient experiences. Learning occurs when the environment accurately reflects reality and both the student and educator are actively engaged. Simulated experiences offer the opportunity for diverse styles of learning not offered in the class room environment and can result in an increase in confidence felt by the student (Jefferies & Rizzolo 2006).

Simulated patient experiences must be comprised of certain components in order to be successful teaching tools and include the following:

- Simulation experiences comprise the actual simulation experience, debriefing, and evaluation.
- Each simulated experience must have clearly stated objectives that are presented to the student prior to engaging in the simulation experience.
- Students are required to prepare for a clinical simulation experience in the same manner as they would prepare for an actual patient care experience.
- An orientation to both the simulation technology and the environment is required.
- The simulation must challenge the student to use problem solving and critical reasoning skills to assess the situation and determine the correct interventions.
- The educator assumes the role of facilitator, providing cues when necessary, but is not an active participant in the simulation.
- The educator and the student should participate in an active debriefing. Facilitated by the educator, the debriefing should challenge the student to think critically about his/her practice and clinical judgment. The qualifications and training of the educator directly contribute to the efficacy of the debriefing. The educator should receive training in general simulation basics and have an advanced knowledge of the situation to be covered in each simulation that they facilitate. Observing other students performing in a simulation experience, either in real time or videotaped, enhances learning and affects both the participant and the observers' self efficacy (Hoffmann et al. 2007). The debriefing session should occur immediately after the simulation is completed so

the thoughts and feelings of the learner are not forgotten and do not get distorted over time (Jefferies 2007). Video recording of the simulation can be utilized as a tool to provide objective data for review.

- Each simulation session should also include an evaluation of the overall experience by both the educator and student.

There needs to be an introduction to both the simulation and the environment by the educator. The environment in which the simulated patient experience is to be performed must reflect reality as much as possible. Introduction to the environment is important because it allows students to become familiar with the simulator and resources available. Poor introduction may lead to students questioning what can be done “for real”, which may lead to a decrease in realism.

The simulation must challenge the student to use problem solving skills and critical thinking to assess the situation and determine the correct treatment path. The educator should act as a facilitator providing cues when necessary, but not as an active participant in the simulation. It is important, however, for the facilitator to intervene when a catastrophic outcome is imminent. Unless the objectives specifically call for death, as in an end of life situation, the scenario should end with a viable patient (Jefferies, 2007; Kyle & Murray 2008).

Definition of Terms:

Clinical Judgment: Obtaining the necessary experience to begin recognizing patterns as well as a familiarity with what needs to be done. An interpretation or conclusion regarding a patient’s needs, concerns, or health problems, and/or the decision to take action (or not) use or modify standard approaches, or improvise new ones as deemed appropriate by the patient’s response (Tanner, 2006).

Clinical Simulation Experiences: As a teaching methodology, “a clinical simulation experience is an active event in which students are immersed into a realistic clinical environment or situation. During this authentic clinical experience learners are required to integrate and synthesize core concepts and knowledge and apply appropriate interpersonal and psychomotor skills. Students must incorporate critical thinking and decision making skills using a process (e.g., nursing process) involving assessment, diagnosis, planning, implementation or intervention and evaluation (Virginia State Simulation Alliance, 2008)”.

Complexity: The depth and intricacy in design of a clinical simulation. The complexity is reflective of the problem solving required of the learner. Complexity should be learner focused, challenging, and goal oriented.

Critical Thinking (Clinical Reasoning): A mental process that requires assessment and evaluation of information in order to form a judgment that combines scientific evidence with common sense. An ability to solve problems by making sense of information using creative, intuitive, logical, and analytical mental processes that are continually evaluated (Snyder, 1993).

Cues: Interventions or assistance given by the educator to facilitate learning and problem solving without interfering or taking over a situation.

Debriefing: An organized review of an incident or event after it occurs that utilizes guided, reflective questioning for the purpose of discerning learning points, improving care, and quality improvement. Patient simulation requires objective, thorough evaluation of the learners experience in the simulation.

Direct client care: Nursing care provided to patients/clients in a clinical setting supervised by qualified faculty.

Fidelity: The degree to which a simulation and/or a simulation device accurately reproduces clinical and/or human parameters; realism.

High-Fidelity Technologies – A device with lifelike features, either whole body or partial body, that is able to respond to a learner's actions or interventions.

Low-Fidelity Technologies – A device that does not respond to interventions or is unable to be altered in real time to create a response.

Objectives: A learning tool designed to focus an educational experience on desired goals. The objectives of the simulation must reflect the intended outcome of the experience, specify expected learner behavior, and include sufficient detail to allow the learner to participate in the simulation effectively (Jeffries, 2007).

Part-task trainer: A device designed to teach students to perform a particular task such as Foley catheter insertion or venipuncture.

Simulated Direct Client/Patient Care: Clinical simulation that is realistic and reflective of care provided to clients in the health care environment. It must build students' clinical judgment and critical thinking and meet the requirements set forth by the Board and supervised by qualified faculty.

Skills Acquisition/Task Training: Education that is focused on psychomotor skills necessary to complete specific tasks that are integral to patient care. Skills acquisition/task training alone does not qualify as simulated direct client care.

Expectations for Using Simulation in Nursing Education Programs

This section applies to those programs that offer simulation to meet the clinical hour requirements. This does not apply to programs that use simulation in addition to the required direct client care hours.

As we move forward and begin to integrate technology and clinical simulation into nursing curricula, the appropriate use of simulated patient hours must be addressed. One hour of simulated client care, including the debriefing time, is equal to one hour of direct client care.

No more than 20% of direct patient contact hours may be simulation. For pre-licensure registered nursing programs, the total of simulated patient care hours cannot exceed 100 hours (20% of the required 500 hours). For pre-licensure practical nursing programs, the total of simulated patient care hours cannot exceed 80 hours (20% of the required 400 hours). No more than 50% of the total clinical hours for any course may be used as simulation.

Skills acquisition and task training alone, as in the traditional use of a skills lab, do not qualify as simulated client care, and therefore do not meet the requirements for direct client care hours. Clinical Simulation must be led by faculty as defined by the Virginia Board of Nursing regulations [18 VAC 90-20-90].

The following documentation must be available for all simulated experiences:

- course description,
- objectives,
- type of simulation,
- location of simulated experience,
- number of simulated hours,
- faculty qualifications, and
- methods of debriefing.

This recommendation is intended to be merely advisory.

References

- Billings, D.M., & Halstead, J.A. (2005). *Teaching in Nursing: A Guide for Faculty* (2nd ed.). Philadelphia: W.B. Saunders.
- Hoffmann, R.L., O'Donnell, J. M., & Kim, Y. (2007). The effects of human patient simulators (HS) on basic knowledge in critical care nursing with undergraduate senior baccalaureate nursing students. *Simulation in Health Care: Journal of the Society for Simulation in Health Care*, 2(2), 110-115.
- Jefferies, P.R. (Ed.) (2007). *Simulation in Nursing Education: From Conceptualization to Evaluation*. New York, NY: National League for Nursing.
- Jefferies, P.R., & Rizzolo, M.A. (2006). *Designing and implementing models for the innovative use of simulation to teach nursing care of ill adults and children: A national, multi-site, multi-method study*. New York: National League for Nursing.
- Kyle, R. R., Murray, W.B. (Eds.) (2008). *Clinical Simulation: Operations, Engineering*

- and Management*. Burlington, MA: Academic Press.
- Morton, P.G. (1995). Creating a laboratory that simulates the critical care environment. *Critical Care Nurse*, 16(6), 76-81.
- National Council of State Boards of Nursing (2009). *The Effect of High Fidelity Simulation on Prelicensure Nursing Student Performance and Knowledge: A Pilot Study*. Presented at the NCSBN midyear meeting March 2-4, 2009.
- National League for Nursing (2009). *Simulation in Nursing Education*. Nursing Education Perspectives, Vol 30 (2), 71-128.
- Virginia State Simulation Alliance (2008). *Use of Clinical Simulation Experiences in Nursing Education: The Virginia State Simulation Alliance Position Statement* (Unpublished).

* The Virginia Board of Nursing wishes to acknowledge the contributions of Daniel Phillips and Christine Dietz, nursing students at VCU School of Nursing, Richmond, in the preparation of this document.

Accepted: July 21, 2009